

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. **(Currently Amended)** [[A]] The hybrid ferromagnet/semiconductor spin device comprising: of claim 10,
a semiconductor substrate;
a source region formed on the substrate as a ferromagnet;
a spin channel region on the substrate, where a spin-polarized carrier at the source region is injected and transported; and
a drain region formed on the substrate as a ferromagnet, for detecting a spin which has passed through the spin channel region.
wherein the ferromagnet is one selected from GaMnAs, InMnAs, GeMn, and GaMnN.
2. **(Previously Presented)** The hybrid ferromagnet/semiconductor spin device of claim 1, wherein the ferromagnet is a magnet metal having a great spin polarization.
3. **(Canceled)**
4. **(Previously Presented)** The hybrid ferromagnet/semiconductor spin device of claim 1, wherein the ferromagnet is a half metal having a spin polarization of 100%.
5. **(Original)** The hybrid ferromagnet/semiconductor spin device of claim 1, wherein the semiconductor is one selected from Si, GaAs, InAs, and Ge.

6. **(Original)** The hybrid ferromagnet/semiconductor spin device of claim 1, wherein the spin channel region is Si on insulator (SOI) or two dimensional electron gas of a compound semiconductor.

7. **(Original)** The hybrid ferromagnet/semiconductor spin device of claim 1, wherein the source region and the drain region have a line width of a range of 5-1000nm.

8. **(Original)** The hybrid ferromagnet/semiconductor spin device of claim 7, wherein an interval between the source region and the drain region is in a range of 10nm -1 μ m.

9. **(Original)** The hybrid ferromagnet/semiconductor spin device of claim 7, wherein the source region and the drain region have a different line width each other so that a spin switching is anti-parallel in a certain magnet field range.

10. **(Previously Presented)** A hybrid ferromagnet/semiconductor spin device comprising:

a semiconductor substrate;

a source region formed on the substrate as a ferromagnet;

a spin channel region on the substrate, where a spin-polarized carrier at the source region is injected and transported;

a drain region formed on the substrate as a ferromagnet, for detecting a spin which has passed through the spin channel region; and

wherein a surface of the semiconductor substrate where the source region and the drain region are formed is etched with a depth of a range of 10-500nm.

11. (Original) The hybrid ferromagnet/ semiconductor spin device of claim 1, wherein a contact resistance between the ferromagnet and the semiconductor is Ohmic or Schottky.

12. (Canceled)

13. (Canceled)

14. (Canceled)

15. (Canceled)